REMARKS

Claims 1, 3, 5-8, 10-13, 17, 19, 21-24, and 26-29 remain in the application. Claims 2, 4, 9, 14-16, 18, 20, 25, and 30-32 are withdrawn from consideration.

The Examiner contends that the application contains the following distinct species of the claimed invention:

(1) Species D, drawn to a three-dimensional molecular assembly, formed on a substrate, comprising seed molecules having one connector portion (Claims 2 and 18);

Species E, drawn to a three-dimensional molecular assembly, formed on a substrate, comprising seed molecules having more than one connector portion (Claims 3 and 19);

(2) Species F, drawn to a three-dimensional molecular assembly, formed on a substrate, comprising active molecules having one connector portion (Claims 4 and 20);

Species G, drawn to a three-dimensional molecular assembly, formed on a substrate, comprising active molecules having more than one connector portion (Claims 5 and 21);

(3) Species H, drawn to a three-dimensional molecular assembly, formed on a substrate, comprising spacer molecules having one connector portion (Claims 9 and 25);

Species I, drawn to a three-dimensional molecular assembly, formed on a substrate, comprising spacer molecules having more than one connector portion (Claims 10 and 26);

The Examiner requires Applicants to elect a single disclosed species from each of D-E, F-G, and H-I for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, Claims 1 and 17 are generic.

Applicants hereby elect Species E, G, and I for prosecution (each species requiring two connector portions). Specifically, Claims 1, 3, 17, and 19 are readable on Species E. Claims 1, 5-7, 17, and 21-23 are readable on Species G. Claims 1, 10-13, 17, and 26-29 are readable on Species I.

The Examiner requires certain information under 37 CFR 1.105 to assist him in the examination of the application. The following information is required:

1. To extend the domain of search for prior art related to the claimed subject matter art of three-dimensional molecular assembly and its applications for molecular display and moletronics.

Applicants submitted an Information Disclosure Statement citing eight (8) references with the filing of the instant application. Applicants have nothing further to add at this time.

2. To identify products and services embodying the disclosed subject matter of three-dimensional molecular assembly and its applications for molecular display and moletronics and identify the properties of similar products and services found in the prior art.

No products and services are currently available from the assignee of the present application. No products and services that would be similar to the disclosed subject matter are known.

3. To enter in the record the art suggested by the Applicants as relevant to this examination.

See item 1 above.

4. A list of key words that are particularly helpful in locating publications related to the disclosed art of three-dimensional molecular assembly and its applications for molecular display and moletronics.

Applicants provide herewith a list of the following keywords for searching:

molecular electronic (moletronic) devices;
molecular switches;
electrochromic colorants;
molecular displays; and
molecular self-assembly.

5. A list of citations to electronically searchable databases or other indexed collections containing publications that document the knowledge within the disclosed art of three-dimensional molecular assembly and its applications for molecular display and moletronics.

Applicants provide herewith a list of the following electronically searchable databases:

IEEE Xplore

http://ieeexplore.ieee.org/Xplore/DynWel.jsp

Inspec

http://www.iee.org/publish/inspec/

SciFinder Scholar

http://www.cas.org/SCIFINDER/SCHOLAR/

ISI Web of Science

http://www.isinet.com/products/citation/wos/

6. Copies of each publication that any of the applicants authored or co-authored and which describe the disclosed art of three-dimensional molecular assembly and its applications for molecular display and moletronics.

There are no such publications.

7. The title, citation, and copy of each publication that any of the applicants relied upon to develop the disclosed art of three-dimensional molecular assembly and its applications for molecular display and moletronics, with a concise explanation of the reliance placed on that publication in the development of the disclosed subject matter.

Applicants did not rely on any such publications. Their invention represents original work.

8. A statement as to whether any search of prior art was performed, and if so, the citation for each prior art collection searched, as well as whether any art retrieved from the search was considered material to demonstrating the knowledge of a person having

ordinary skill in the art to the disclosed art of three-dimensional molecular assembly and its applications for molecular display and moletronics.

At least one prior art search was done by one of the inventors, but no relevant art was turned up. This is considered to be a pioneering invention.

9. A statement as to the specific improvements of the subject matter in Claims 1-13 and 17-29 over the disclosed prior art and an indication of the specific elements in the claimed subject matter that provide those improvements.

Applicants are not aware of any prior art that the present invention is an improvement over, so no statement can be made as to the specific improvements.

The Examiner alludes to limited amounts of art that are to be found in class 349, subclass 33 (electrically excited liquid crystal displays). However, since the devices of the present invention do not rely on liquid crystal materials, Applicants submit that searching in this area might not be as productive as the areas they list above, since liquid crystals are not molecular switches. Rather, liquid crystals rely on crystal orientations to provide dichroic color states and thus the switchable color states of liquid crystals do not involve a change in the inherent color of the colorant. In contrast, Applicants' switchable molecules involve a change in the color of the molecule by altering the HOMO-LUMO energy states of the molecule.

Applicants submit that the foregoing is fully responsive to the Examiner's request for information and that this Response is made with candor and good faith under 37 CFR 1.56.

The application is considered to be in condition for allowance. The Examiner is respectfully requested to take such action. If the Examiner has any questions, he is invited to contact the undersigned at the below-listed telephone number. HOWEVER, ALL WRITTEN COMMUNICATIONS SHOULD CONTINUE TO BE DIRECTED TO: IP ADMINISTRATION, LEGAL DEPARTMENT, M/S 35, HEWLETT-PACKARD COMPANY, P.O. BOX 272400, FORT COLLINS, CO 80527-2400.

Respectfully submitted,

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